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(54) Title: **BIOCOMPATIBLE POROUS TI-NI MATERIAL**

(57) Abstract: This invention relates to a porous nickelide of titanium (TiNi) material also comprising oxygen, that is biomechanically and biochemically compatible and is intended primarily for use in the biomedical fields for implantation and interfacing with living tissues. The material has a porous structure defined by morphological, mechanical and surface properties to conform well to adjacent bone to which the TiNi material is designed to bind. The material is further distinguished by a complete lack of nickel enriched secondary phases. These phases may leach nickel into the body which could result in complications associated with nickel toxicity. The mechanical properties and surface characteristics achieved confirm the biofunctionality of the invention.

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